



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/994,178

11/26/2001

Klaus M. Irion

02581-P0433A

9476

24126

7590

09/17/2009

ST. ONGE STEWARD JOHNSTON & REENS, LLC
986 BEDFORD STREET
STAMFORD, CT 06905-5619

EXAMINER

AGGARWAL, YOGESH K

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

09/17/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/994,178	Applicant(s) IRION ET AL.	
	Examiner YOGESH K. AGGARWAL	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,7,8,10-15,17-19,21 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4,8,13-15,17-19,21 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2622

Allowable Subject Matter

1. The indicated allowability of claim 24 is being withdrawn in view of the Yabe reference (US Patent # 4,779,130). Rejections based on the reference(s) follow. Claim 24 should not have been allowed since the scope of this claim is very similar to rejected claim 1 and therefore the same rejection could have been applied for the rejection of claim 24 too. Examiner sincerely apologizes for this inconvenience and will try to be diligent in the future.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4, 8, 13-15, 17-19 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yabe (US Patent # 4,779,130).

[Claim 24]

Yabe discloses an image pick-up module, comprising:

an endoscope shaft having a longitudinal axis (Fig.2; column 3, lines 48-64; core tube 9 corresponds to the shaft; note longitudinal axis L);

an electronic image sensor having an image pick-up surface transverse to the longitudinal axis of said shaft (electronic image sensor 34);

Art Unit: 2622

a circuit board electrically bonded to said image sensor, said circuit board comprising first and second sections, said first and second sections each having a first end bonded to said image sensor and a second end, wherein said first and second sections extend longitudinally from said image sensor substantially perpendicular to the image pick-up surface of said sensor and substantially in parallel to one other and a third section (circuit board 35 electrically bonded to the sensor 34 having at least three integral sections (a top (first) section depicted with a two-lead component, a bottom (second) section depicted with a three-lead component and a right-hand (third) section, between the first and second sections, the top and bottom sections are shown as extending longitudinally from said image sensor substantially perpendicular to the image pick-up surface of said sensor and parallel with each other and crosswise to the image pickup surface of element 34),

at least one cable electrically bonded to said circuit board and leading away from said circuit board (cable 36, wires attached to circuit board 35);

Yabe does not disclose that said third section has a substantially V-shaped configuration. However, as is evident from Yabe, it is known in the art to fold circuit boards in endoscopes. The particular shape to which it is folded, including to have a section which has a substantially V-shaped configuration, would amount to a design variation of Yabe's invention that was within the capability of one of ordinary skill in the art in light of considerations such as the particular type, size or shape of the endoscope shaft within which the module is to be placed. This design feature further produces no unexpected results. The claimed invention could therefore have resulted from Yabe's invention in a predictable manner.

[Claim 4]

Art Unit: 2622

It would be obvious to have a V-shaped hybrid board that have a straight-line prolongation in Yabe as is evident from Yabe, it is known in the art to fold circuit boards in endoscopes. The particular shape to which it is folded, including to have a section which has a substantially V-shaped configuration, would amount to a design variation of Yabe's invention that was within the capability of one of ordinary skill in the art in light of considerations such as the particular type, size or shape of the endoscope shaft within which the module is to be placed.

[Claims 8 and 18]

Yabe teaches at least one cable (shown on the right side with three leads) electrically bonded to an outside surface of said circuit board leading away from said circuit board.

[Claim 13]

Yabe discloses wherein an interior of said circuit board is filled with epoxy or silicone. However Official Notice is taken of the fact that it is very common to have an adhesive that is electrically non-conductive, filling compound like epoxy resin. Therefore taking the combined teachings of Yabe and Official Notice, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have an adhesive that is electrically non-conductive, filling compound like epoxy resin in order to have high heat conductivity, which makes the temperature distribution uniform at the time of cure, so that the necessity of stepwise heating is eliminated at the time of cure and the procedure of curing is made easier to practice.

[Claims 14, 15, 17]

Yabe discloses in figure 2 a left hand section on the left side to accommodate the imager 34 and having a space to accommodate the image sensor and is read as a recess. The imager is read as an electric component contained in the circuit board.

Art Unit: 2622

[Claim 19]

Yabe would inherently have at least one electric circuit board conductor for electrically connecting first and second section since the whole of the circuit board is integral.

[Claim 21]

Yabe discloses different sections of single piece circuit board 35 electrically bonded to the sensor 34 having at least three integral sections (a top (first) section depicted with a two-lead component, a bottom (second) section depicted with a three-lead component and a right-hand (third) section, between the first and second sections, the top and bottom sections are shown as parallel with each other and crosswise to the image pickup surface of element 34. Yabe also discloses having a first and second section having cable attached and a third section connected to the first and second section which are flexible cable electrically bonded to an outside surface of said circuit board leading away from said circuit board (cable 36 as shown in figure 2, wires attached to circuit board 35).

[Claims 22]

This is a method claim corresponding to apparatus claims 1 and 21. Therefore claim 22 is analyzed and rejected based upon apparatus claims 1 and 21 respectively.

[Claim 23]

See Examiner's notes regarding Claim 13.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOGESH K. AGGARWAL whose telephone number is (571)272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

Art Unit: 2622

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571)-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yogesh K Aggarwal/
Examiner, Art Unit 2622